

REMARKS

This is a complete response to the outstanding Final Office Action mailed on May 24, 2011. Applicant respectfully requests reconsideration. Claims 29-32 were previously pending in this application. Claims 15-28 and 33-38 have been previously withdrawn from further consideration. Claims 29 and 30 have been amended. New claims 39-45 have been added. As a result, claims 29-32 and 39-45 are pending for examination with claim 29 being an independent claim. No new matter has been added.

**35 USC §112**

The Examiner has rejected Claims 29-32 under 35 USC §112, first paragraph, as failing to comply with the written description requirement. Specifically, the Examiner states that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application as filed, had possession of the claimed invention. More specifically, the Examiner states that in so far as Claim 29 recites that the size of the outlet end of the plurality of the needles does not define the size or shape of the resulting

capillaries, this limitation is not described in the specification. Although Applicant disagrees with the Examiner's determination, the Applicant has removed this limitation from the claim. As such, Applicant respectfully requests reconsideration and withdrawal of the 112 rejection.

### **35 USC §112**

The Examiner has rejected Claims 29-32 under 35 USC §112, second paragraph, as being indefinite for failure to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, the Examiner asserts that the limiting effect of the recitation in claim 29 "allow fluid to be drawn... to be entrained" is unclear. Applicant has removed the use of the term "drawn" and replaced it with "flow". Support for the use of the term "flow" can be found in the specification in at least paragraph [0083]. Furthermore, Applicant has amended independent claim 29 to remove the "entrained" limitation and rather to recite that the method allows "a fluid medium to flow from the fluid source through the conduit of each of said plurality of needles, whereby the fluid medium forms capillaries such that the extrudate includes capillaries therealong in the

same predetermined pattern as the plurality of needles". These amendments are made to clarify that the present invention claims a method wherein the flow of fluid medium through the needles forms the resulting hollow capillaries. The amended claim limitations are both supported by the specification in at least paragraphs [0014] and [0083] and serve to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. As such, Applicant respectfully requests reconsideration and withdrawal of the 112 rejection.

Moreover, Applicant has added dependent claims 39-45 to further define the fluid medium and its characteristics such definitions are completely supported at least in paragraphs [0014] and [0083].

**35 USC 102(b) and 35 USC 103**

The Examiner has rejected claim 29 under 35 USC 102(b) as being anticipated by Zertuche (US Patent No. 4,655,987, hereinafter "Zertuche"), or in the alternative Delves-Broughton (US Patent No. 3,771,934, hereinafter "Delves-Broughton", or in the alternative Ho et al. (US Patent No. 5,658,644, hereinafter "Ho"), or in the alternative Wooley (US Patent No. 3,778,495,

hereinafter "Wooley"). Similarly, the Examiner has rejected claims 30-32 under 35 USC 103(a) as being unpatentable over Zertuche in view of Harrington (US Patent No. 7,550,102, hereinafter "Harrington") or in the alternative over Delves-Broughton in view of Harrington, or in the alternative Ho in view of Vetter (US Patent No. 4,707,393, hereinafter "Vetter"). Applicant respectfully submits that Zertuche, Delves-Broughton, Ho, Wooley, Harrington and Vetter alone or in combination all fail to disclose, teach, or suggest all of the elements of claims 29-32 for at least the reasons that follow.

Amended claim 29 recites, in pertinent part:

"using the extruder to force the extrudable material to flow towards the die, over and around the plurality of needles in the die and through the orifice in the die to produce an extrudate having the predetermined outer shape and cross-section" and

"using the plurality of needles to allow a fluid medium to flow from the fluid source through the conduit of each of said plurality of needles, whereby the fluid medium forms capillaries such that the extrudate includes capillaries therealong in the same predetermined pattern as the plurality of needles, wherein a needle outlet of each of the plurality of needles has a diameter of 2mm or less"

The prior art teaches the use of hollow extrusions where air passes through a mandrel of arbitrary shape in order to make a hollow section having an inner shape that is defined by the outer shape of the mandrel.

In contrast, the present invention claims "using the plurality of needles to allow a fluid medium to flow from the fluid source through the conduit of each of said plurality of needles, whereby the fluid medium forms capillaries" and moreover, "wherein a needle outlet of each of the plurality of needles has a diameter of 2mm or less". As claimed, the fluid medium flows through a conduit in a needle and the fluid medium forms resulting capillaries. Furthermore, Applicant claims that "the fluid medium forms capillaries such that the extrudate includes capillaries therealong in the same predetermined pattern as the plurality of needles".

As is well known and clearly defined in the relevant art, "capillary" means "resembling a hair; slender or (or tubes) having a fine bore or "a fine hole or narrow passage in any substance", hence capillary is referred to as "hair-like" meaning that the capillary is slender. See additionally, Exhibit B for a

dictionary definition of "capillary" from the Collins English Dictionary. Applicant claims that "a needle outlet of each of the plurality of needles has a diameter of 2mm or less". As such, the channels of Zertuche cannot reasonably be considered "capillary" channels.

The Examiner's assertion that "hair-like" could mean "high aspect ratio" or "cylindrical shape" does not accord with the meaning of "capillary" as shown in Exhibit B and described above and recited in the claims. The channels of Zertuche, shown most clearly in Figure 4, do not have fine bores or fine holes. The recesses 14 shown, which will be filled with extruded material, are small in comparison with the mandrel parts 16, 21, which serve to define the size and shape of the bores. If the bores of Zertuche were slender as a hair, the dividing walls corresponding to the recesses 14 would have little or no structural strength, thereby rendering the invention ineffective for its intended purpose.

The production of relatively wide bores in a robust structure by Zertuche is consistent with the uses as described in the Zertuche specification, such as "reinforcing tubing that will stand loads and heavy duty work" and "inner conduits for housing

electrical wires". These applications are not consistent with a product having capillary bores.

Finally, in order to further distinguish the claimed invention from the prior art, Applicant has amended claim 29 to include that a needle outlet of each of the plurality of needles has a diameter of 2mm or less. None of the prior art teaches, claims or suggests a needle outlet of 2mm or less. Therefore, Applicant respectfully requests reconsideration and withdrawal of the 103 rejections drawn to claim 29.

The Applicant also respectfully submits that since claims 30-32 and 39-45 depend on independent claim 29, claims 30-32 and 39-45 contain all limitations of independent claim 29. Since independent claim 29 should be allowable, as argued herein, pending dependent claims 30-32 and 39-45 should be allowed as a matter of law for at least this reason. In re Fine, 5 U.S.P.Q.2d 1596, 1608 (Fed. Cir. 1988).

#### CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in

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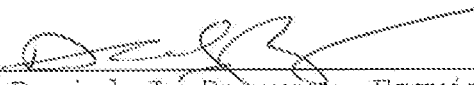
condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account Number 02-3285, under Docket Number DUMMETT-051XX.

Respectfully submitted,

Mackley et al.

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